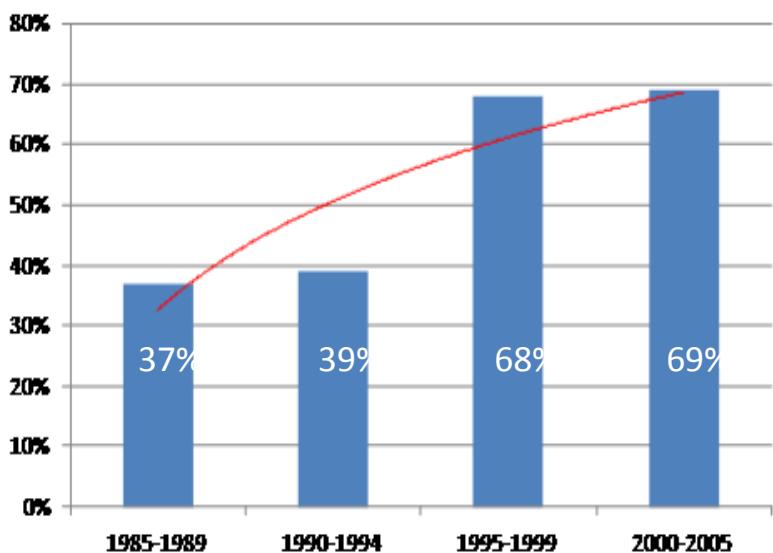


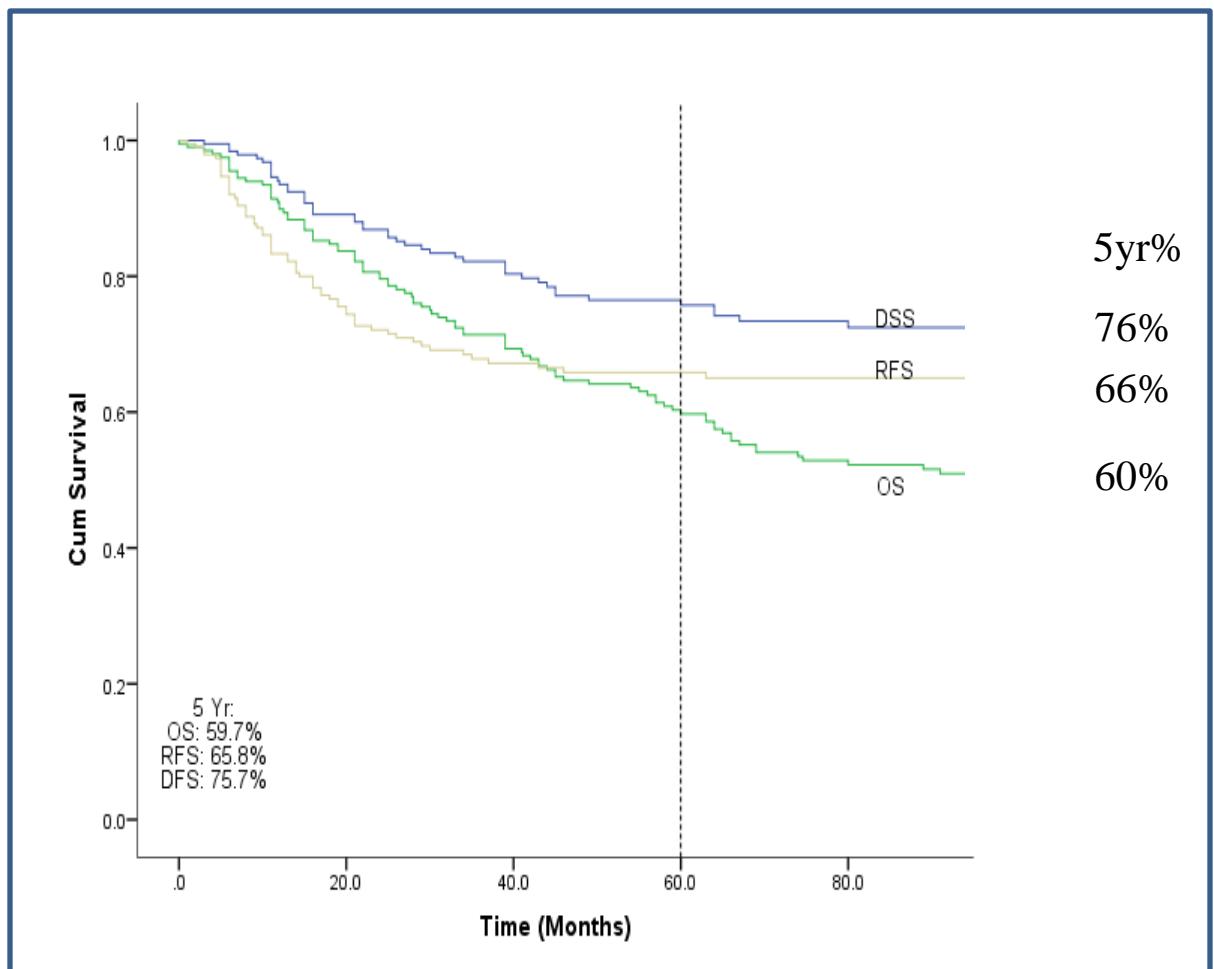
Supplementary Figure 1. Graph showing prevalence of p16(HPV)-positive oropharynx cancers from 1985-2005

Rising Prevalence of p16 Positive Oropharyngeal Cancer



	HPV Pos	HPV Neg	Total	% Pos	p Value
1985-1989	13	22	35	37%	
1990-1994	27	43	70	39%	
1995-1999	41	19	60	68%	
2000-2005	25	11	36	69%	<0.001

Supplementary Figure 2. Kaplan-Meier plots showing Overall(OS),Disease-Specific(DSS) and Recurrence-free(RFS) survival in patients with SCC of the oropharynx in this cohort.



Supplementary Table 1 Patient characteristics for the entire cohort, p16-positive (p16+) and p16-negative (p16-) cases.

	All(n=201)	p16+(n=106)	p16-(n=95)	
	n(%)	n(%)	n(%)	p-Value
Age				
≤ 60	118(59%)	76(72%)	42(44%)	<0.001
> 60	83(41%)	30(28%)	53(56%)	
Sex				
Female	63(31%)	25(24%)	38(40%)	0.012
Male	138(69%)	81(76%)	57(60%)	
Alcohol Use				
Never	33(16%)	23(22%)	10(10%)	0.012
Ever	164(82%)	79(74%)	85(90%)	
Unknown	4(2%)	4(4%)	0(0%)	
Tobacco Use				
Never	34(17%)	29(27%)	5(5%)	<0.001
Ever	167(83%)	77(73%)	90(95%)	
≤10 pack years	50(25%)	43(40%)	7(7%)	<0.001
>10 pack years	146(73%)	59(56%)	87(92%)	
Unknown	5(2%)	4(4%)	1(1%)	
Subsite				
Base of Tongue	89(44%)	50(47%)	39(41%)	<0.001
Soft Palate	46(23%)	8(8%)	38(40%)	
Tonsil	66(33%)	48(45%)	18(19%)	
cT Status				
cT1	43(21%)	21(20%)	22(23%)	0.031
cT2	78(39%)	51(48%)	27(28%)	
cT3	52(26%)	21(20%)	31(33%)	
cT4	28(14%)	13(12%)	15(16%)	
cN Status				
cN0	65(32%)	25(23%)	40(42%)	0.001
cN1	43(21%)	18(17%)	25(26%)	
cN2	88(44%)	60(57%)	28(30%)	
cN3	5(3%)	3(3%)	2(2%)	
Clinical Stage				
I	18(9%)	2(2%)	16(17%)	<0.001
II	20(10%)	10(9%)	10(10%)	
III	56(28%)	25(24%)	31(33%)	
IV	107(53%)	69(65%)	38(40%)	
Neck Dissection				
No	20(10%)	6(6%)	14(15%)	0.036
Yes	181(90%)	100(94%)	81(85%)	
PORT				
No	63(31%)	25(24%)	38(40%)	0.012
Yes	138(69%)	81(76%)	57(60%)	

Supplementary Table 2 Pathologic characteristics of the tumors for the entire cohort, p16-positive(p16+) and p16-negative(p16-) cases

	All(n=201)	p16+(n=106)	p16-(n=95)	
	n(%)	n(%)	n(%)	p-Value
Grade				
Well-Differentiated	18(9%)	4(4%)	14(15%)	<0.001
Moderately Differentiated	100(50%)	47(44%)	53(56%)	
Poorly Differentiated	70(35%)	50(47%)	20(21%)	
Unknown	13(6%)	5(5%)	8(8%)	
Perineural Invasion				
Absent	119(59%)	67(63%)	52(55%)	0.429
Present	42(21%)	21(20%)	21(22%)	
Unknown	40(20%)	18(17%)	22(23%)	
Lymphovascular Invasion				
Absent	114(57%)	63(59%)	51(54%)	0.674
Present	49(24%)	25(24%)	24(25%)	
Unknown	38(19%)	18(17%)	20(21%)	
Surgical Margin				
Negative	102(51%)	54(51%)	48(51%)	0.646
Close(<5mm)	38(19%)	20(19%)	18(19%)	
Positive	56(28%)	28(26%)	28(29%)	
Unknown	5(2%)	4(4%)	1(1%)	
pT Status				
pT1	64(32%)	41(39%)	23(24%)	0.028
pT2	77(38%)	37(35%)	40(42%)	
pT3	21(10%)	6(5%)	15(16%)	
pT4	39(20%)	22(21%)	17(18%)	
pN Status				
pN0/NX	59(29%)	20(19%)	39(41%)	0.002
pN1	32(16%)	15(14%)	17(18%)	
pN2	108(54%)	70(66%)	38(40%)	
pN3	2(1%)	1(1%)	1(1%)	
pN Status				
pN0/NX	59(29%)	20(19%)	39(41%)	0.001
pN+	142(71%)	86(81%)	56(59%)	
ECS				
Absent	125(62%)	64(60%)	61(64%)	
Present	69(34%)	40(38%)	29(31%)	
Unknown	7(4%)	2(2%)	5(5%)	0.365
Pathologic Stage				
I	24(12%)	7(7%)	17(18%)	0.003
II	22(11%)	8(8%)	14(15%)	
III	31(15%)	13(12%)	18(19%)	
IV	124(62%)	78(73%)	46(48%)	